

Bioinvasion and Global Environmental Governance: The Transnational Policy Network on Invasive Alien Species

Portugal's Action on IAS

Description⁷

Portugal, officially the Portuguese Republic, is a country on the Iberian Peninsula. Located in southwestern Europe, Portugal is the westernmost country of mainland Europe and is bordered by the Atlantic Ocean to the west and south and by Spain to the north and east. The Atlantic archipelagos of the Azores and Madeira are also part of Portugal. Portugal is a democratic republic of about 10.8 million ruled by the constitution of 1976 with Lisbon, the nation's largest city, as its capital. The Mediterranean type climate is among the warmest in Europe.

Portugal is a founding member of the Latin Union, and a member of the European Union, the Organization of Ibero-American States, the Organisation for Economic Co-operation and Development (OECD), North Atlantic Treaty Organization (NATO), and Comunidade dos Países de Língua Portuguesa (Community of Portuguese Language Countries, CPLP). Since joining the European Community in 1986 Portugal has become a diversified and increasingly service-based economy.

Overview of Biodiversity

Portugal possesses a very diverse natural heritage thanks to its geographical location and geophysical conditions. The Azores and Madeira Archipelagos are situated within the Macaronesian region and thanks to their location, the climatic influences to which they are subject and a substratum of volcanic origin, are home to habitats of quite unique nature and undeniable importance. About 3,600 species of plants occur in Portugal. There are 69 taxa of terrestrial mammals, a total of 313 bird species, of which around 35% are threatened in some ways, and 17 amphibian and 34 reptile species that occur in Portugal.

- [CBD Country Profile](#)
- [Earth Trends Country Profile on Biodiversity and Protected Areas](#)

Legislation relating to IAS

- Decreto-Lei No 565/99 21 December³
- The National Biodiversity and Nature Conservation Strategy (4 parts)
 - [Portuguese version Part 1 \(PDF\)](#)
 - [Portuguese version Part 2 \(PDF\)](#)
 - [Portuguese version Part 3 \(PDF\)](#)
 - [Portuguese version Part 4 \(PDF\)](#)

Government Agencies/Departments/Ministries dealing with IAS

- Ministério do Ambiente [Ministry of Environment]

- [Instituto da Conservação da Natureza da Biodiversidade \(ICNB\)](#) [Institute of Nature Conservation and Biodiversity]
- [Ministério da Agricultura, Desenvolvimento Rural e Pescas \(MADRP\)](#) [Ministry of Agriculture, Rural Development and Fisheries]
 - [Direcção Geral das Pescas e Aquicultura \(DGPA\)](#) [General Directorate of Fisheries]
 - [Autoridade Florestal Nacional](#) [National forest Authority]
 - [Direcção Geral de Desenvolvimento Rural \(DGDR\)](#) [General Directorate of Rural Development]
- Secretaria de Estado dos Transportes (SET) [State Secretariat of Transport]
 - [Direcção Geral de Transportes Terrestres \(DGTT\)](#) [General Directorate of Land Transport]

Major Invasive Alien Species^{1&3}

Ambrosia artemisiifolia (herb)	Linepithema humile (insect)
Aphanomyces astaci (fungus)	Opuntia stricta (shrub)
Bursaphelenchus xylophilus (nematode)	Ophiostoma ulmi sensu lato (fungus)
Carpobrotus edulis (succulent)	Oxyura jamaicensis (bird)
Eichhornia crassipes (aquatic plant)	Procambarus clarkii (crustacean)
Elodea canadensis (aquatic plant)	Rhithropanopeus harrisii (crustacean)
Grateloupia turuturu (algae)	Sargassum muticum (aquatic plant)
Hedychium gardnerianum (herb)	Tradescantia fluminensis (herb)

Native Species Exported/Introduced to Non-Native Environments¹

Centaurea melitensis (herb)	Onopordum acanthium (herb)
Columba livia (bird)	Orthotomicus erosus (insect)
Cytisus scoparius (shrub)	Ostrea edulis (mollusc)
Euphorbia esula (herb)	Ovis aries (mammal)
Frangula alnus (shrub)	Sabella spallanzanii (annelid)
Hydrocharis morsus-ranae (aquatic plant)	Setaria verticillata (grass)
Hylastes ater (insect)	Sirex noctilio (insect)
Lotus corniculatus (herb)	Tomicus piniperda (insect)

Table 1 Actions to prevent, detect and manage IAS categorized into three themes: biodiversity, human health, and economic

Note: Actions (such as projects, publications and programs) are classified according to the most obvious theme but may also fit into the dimensions of another.

Theme	Action
Biodiversity	<ul style="list-style-type: none"> ● Detaining and introducing alien species is regulated by Decreto-Lei nº 565/99, 21 December. Priorities are being identified and this law will be revised for a more efficient application. Specifically the law regulates the introduction and control of invasive alien species, allows introductions exceptionally if the following situations are verified cumulatively:

	<ul style="list-style-type: none"> - Unequivocal advantages for Man or natural biocenoses; - There is no apt native species for the intended end; - If preceded of elaboration of an environmental study of impact, whose conclusions are relevant for authorization. In protected areas, zones of special protection, etc., introductions are only allowed, if they are the only efficient mean for nature conservation or if necessary for public health or/and security.³ • The National Biodiversity and Nature Conservation Strategy establishes as a goal the identification and ecological characterization of invasive species and the development of methodologies towards its control and eradication (Option 1h). The NSBNC also establishes as a goal the development of a plan to eradicate alien species and the immediate implementation of actions to control the spread of invasive species (Option 5i).³ • Examples of control programs include: <ul style="list-style-type: none"> - the <i>Carpobrotus edulis</i> in the Natural Park of Sintra-Cascais; - the water hyacinth in the Natural Reserve of Paul do Boquilobo; - the <i>Sargassum muticum</i>, in the Natural Park of Ria Formosa (in collaboration with the University of the Algarve); and - the Project Invader of the Natural Reserve of Dunas de S. Jacinto.³ • In the Azores, a Regional proposal for controlling alien species is being developed in order to prevent the introduction, to guarantee fast detection and response, to investigate its effects, to control populations, to recover habitat and for education and public awareness. Identified priorities are: regional legislation, control and eradication programmes of alien species, recovery of natural habitats, and awareness programmes for private stakeholders and the general public. Specifically, in Azores there are programmes to monitor and control invasive plant species in Natura 2000 areas (The Regional Plan of Eradication and Control of Invading Flora Species in Sensible Areas). There is also monitoring of invasive marine species, including <i>Sargassum muticum</i> and <i>Grateloupia turuturu</i>.³ • Regulation of the threat to forest biodiversity include long-term eradication programme for the Pine wood nematode. There are several projects on the ground to eradicate woody invasive species, namely <i>Acacia</i> sp., and restoration of these sites. • An analysis risk and eradication project of <i>Sargassum muticum</i>, in the Natural Park of Ria Formosa (PNRF) in collaboration with the University of the Algarve is underway. Also, the Project Invader of the Natural Reserve of Dunas de S. Jacinto (RNDSJ) is in process.³ • Two Ramsar sites, the Complexo Vulcanico das Furnas and the Complexo Vulcanico das Sete Cidades, are under considerable threat due to the expansion of IAS; there are currently an urgent recovery plans for the restoration of both sites.⁴
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	<ul style="list-style-type: none"> • In Portugal, the island territory of Madeira has specific laws in place to control imports of alien species.⁶ • Institute for Nature Conservation and Biodiversity is the governmental body responsible for nature conservation and biodiversity policies as well as the management of Protected Areas. Its mission includes the sustainable management of wild animal and plant species; designation of land and marine Protected Areas, management of those classified as having national interest and collaborate in the management of the remaining regional and local areas; to integrate the objectives of nature conservation and sustainable use of natural resources into planning policies and sectorial policies; to implement the National Strategy for Nature Conservation and Biodiversity and to develop the National Programme for Nature Conservation; to promote information, visiting and awareness about nature conservation and biodiversity aimed at both the general public and public and private entities; to warrant compliance with both EU and International Law in matters related to nature conservation and biodiversity.⁸ • The team of INVADER developed a collection of leaflets about "Plantas Invasoras em Portugal - fichas para identificação e controlo" (Invasive Plant Species in Portugal - identification and control). This collection includes the 30 plant species considered invasive by Portuguese law and 3 other also invasive. The leaflets include photos, morphologic descriptions, control methodologies and some extra information about each species. Leaflets are available online (PDF file) and in paper format.⁹
Human health	<ul style="list-style-type: none"> •
Economic	<ul style="list-style-type: none"> • The National Biodiversity and Nature Conservation Strategy calls for a framework for enhanced cooperation between sectors in the control of invasive alien species. Cooperation has been enhanced namely between: (1) protected areas and farmers associations; (2) private and public institutions dealing with forest; (3) research institutions developing active outreach programmes to promote awareness of local communities on marine biodiversity and marine alien species. There is border control for the trade of aquaculture animals (fish, molluscs and crustaceans) and programmes for prevention and control of diseases affecting these animals and their products.³

Table 2 Action on IAS in cooperation with other countries

Agreement/ Organization	Countries/ Member	Action
Council of Europe		<ul style="list-style-type: none"> • There is an ongoing cooperation with Spain, namely in the management of invasive alien species in the shared river basins, and for game

		species. Cooperation at regional level has been carried out, particularly in the framework of the EU and under the Council of Europe. ³
Convention on Migratory Species		<ul style="list-style-type: none"> Portugal, along with the Council of Europe and the IUCN organized a Workshop on Invasive Alien Species on European Islands and Evolutionary Ecosystems in October 2002.⁵
the Regional Seas Instruments for the North-East Atlantic (OSPAR) and the Mediterranean		<ul style="list-style-type: none"> Subregionally, there has been also some collaborative initiatives, such as the regional seas instruments for the North-East Atlantic (OSPAR) and the Mediterranean, each of which mandates prevention and management measures for marine introductions. In terms of multilateral cooperation, we highlight the participation of Portugal in the Global Invasive Species Project, in the development of legal measures for ballast water management (International Maritime Organization) and international phytosanitary standards.³

Case Studies

[Project INVADER II: INVasion AnD Ecosystem Restoration](#)

Helena Freitas (project coordinator)

This project aims to continue and further develop the studies started in 2002, INVADER I project (POCTI/BSE/42335/2001 supported by FCT "Evaluation of the recover potential of ecosystems invaded by *Acacia* and methodologies to control invasion"), on the recovery of a dune ecosystem invaded by *Acacia longifolia* and including original tasks suggested after our results. For this project, we have selected an invaded coastal area with high conservation value - Natural Reserve of S. Jacinto Dunes (NRSJD) where the invasion by *Acacia longifolia* is spread extensively in the area threatening plant diversity and promoting functional changes at the soil level.

This project will contribute to the resolution of invasion problems by *A. longifolia*, by regarding issues related to specific needs for the management of *A. longifolia* invasion and to improve scientific knowledge about invasion process and to promote public awareness.

This project is divided in 7 tasks that aims to continue the studies of the processes of biological invasion by *Acacia longifolia*, started in 2002 (INVADER, POCTI/BSE/42335/2001). It will give special emphasis to studies related with biological control, with the agent *Trichilogaster acaciaelongifoliae*, methodology something innovative in the context of the control of invasive species in Portugal.

- [Task 1. Long-term monitoring of invaded ecosystems by *Acacia longifolia* recovery at the floristic and soil level](#)

- [Task 2. Testing *Acacia longifolia* biological control](#)
- [Task 3. Spatial and temporal patterns of *Acacia longifolia* seeds dispersal, viability and seed bank dynamics](#)
- [Task 4. Feedback between soil and *Acacia longifolia* invasion](#)
- [Task 5. Genetic variability within *Acacia longifolia* - their implications on biocontrol agents' acceptability](#)
- [Task 6. Public awareness and environmental education](#)
- [Task 7. Monitoring the biocontrol agent, post-releasing²](#)

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